• COLORADO RIVER •

AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Vol. V MARCH 10, 1938 No. 5

FLOOD WATER GOING OVER THE MORRIS DAM SPILLWAY

This interesting picture of storm-darkened San Gabriel Canyon was taken on the morning of March 3, by Lars Christiansen of the Distribution District.

• COLORADO RIVER •
AQUEDUCT NEWS
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

306 West Third St.
Los Angeles, California

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. V March 10, 1938 No. 5

Engineers Report No Damage to Aqueduct After Heavy Storm

Although they come at infrequent intervals, severe storms such as swept Southern California on March 1 and 2 are to be expected in a semi-desert area such as the South Coastal Basin is located in. Being built to bring water into this semi-arid region, the aqueduct at the same time has been designed and constructed to withstand the effect of extreme flood conditions. The value of this was proven during the recent storm.

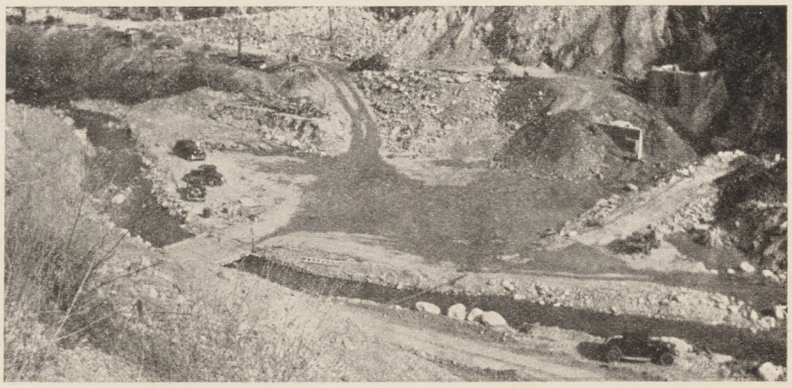
No damage to the aqueduct! This was the official report made to the Board of Directors after division engineers all the way from the Colorado River to the metropolitan area had carefully checked the aqueduct structures in their respective divisions following the destructive floods which swept Southern California on March 1 and 2.

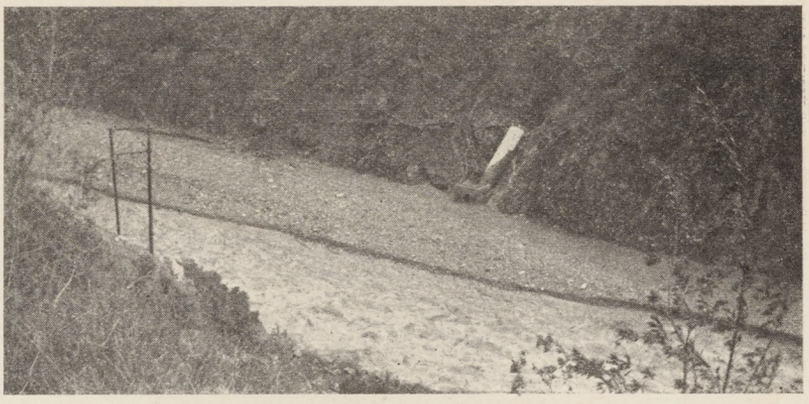
This is an exceptionally gratifying report considering the heavy property damage throughout the area as a result of what is officially noted as the most severe storm which has been recorded in Southern California in the past 61 years.

On the main aqueduct the rainfall was considerably less than in the distribution area. From the Colorado River west to the Whitewater River the rainfall was under an inch for the storm. The Banning region reported 6.46 inches for the storm, and as a result of heavier rains on the watershed draining into the Whitewater, that river went over its banks and caused heavy road damage, but no damage to any aqueduct structures.

One of the two construction power lines leading into the San Jacinto tunnel was washed out, but the other line remained intact and there was no serious power outage at the tunnel. The Dis-

(*Continued on Page 3.*)





BEFORE AND AFTER

These two views show the San Gabriel Canyon crossing before and after the storm of March 1 and 2. The upper picture shows the construction work before the flood at the portal of Monrovia tunnel No. 1, with the siphon's venturi house at the upper right. The lower picture shows the same house with the rest of the area covered by muck. The distribution system crossing has been completed and was not damaged.

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Monrovia Tunnel No. 4, L. E. Dixon Co., Bent Bros., Inc., and Johnson, Inc., W. N. Evans, Supt.

(Canal, Siphon, Conduit)

Schedules Nos. 14, 15 and 16, Thompson - Starrett Co., Inc., Rodney Smith, Gen. Supt.; V. H. Wiese, Engineer.

Schedules Nos. 18, 19 and 20, J. F. Shea Co., Inc., Gilbert J. Shea, Gen. Mgr.; H. F. Rennebohm, Supt.

(Distribution Pipe Line)

Schedules 6P and 7P, J. F. Shea Co., Inc., Gilbert J. Shea, Gen. Mgr.; Ed, H. Shea, Gen. Supt.

Schedule 9P, 10P, 11P, United Concrete Pipe Corp., John Huber, Plant Supt.; Roy Richards, Construction Supt.

Schedules 8C, 9C, 12C, Basich Bros.; Dick Noble, Supt.

Schedule 21SC, 22SC, 23SC, J. F. Shea Co., Gilbert J. Shea, Supt.

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Parker Dam, J. F. Shea Co., Frank Crowe, Gen. Supt., H. P. Bunger, Constr. Eng., U.S.B.R.

Gene Wash dam, Copper Basin dam, J. F. Shea Co., Frank Crowe, Gen. Supt.

(Pumping Plants)

Intake and Gene, Winston Bros. and Crowell, R. A. Crowell, Supt.; F. T. Hillman, Engr.

Eagle Mountain, L. E. Dixon Co.; J. H. Larkin, Supt.

Hayfield, Dixon and Case; Crawford Strohacker, Supt.

This picture of the aqueduct bridge across the Santa Ana River was taken by K. Q. Volk of the Distribution Division on the morning of March 3. It is estimated that 100,000 cubic feet of water per second passed under the bridge during the peak run-off.

M. W. D. Aqueduct Not Damaged

(*Continued from Page* 2.)

trict's own telephone lines remained in operation between Banning and Division 1, but all commercial telephone and telegraph lines were washed out between Banning and Los Angeles and were not available until March 7.

The heaviest rainfall and the greatest general property damage was experienced in the distribution area. Distribution Engineer R. B. Diemer's report shows that the Los Angeles rainfall for the storm amounted to 11.06 inches and totaled 14.73 inches in the Pasadena area. The greatest rainfall for a 24-hour period in Los Angeles was 6.29 inches between 7:30 P. M. March 1, and 7:30 P. M., March 2.

It is estimated that the peak flow for all channels which are crossed by the upper feeder of the distribution system from the Santa Ana River to the Arroyo Seco, inclusive, totaled approximately 200,000 cubic feet of water per second.

The District's Santa Ana River bridge, which carries a 10-foot steel pipe line across the river a few miles west of Riverside, was one of the few bridges crossing that river which was not damaged. The peak flow in the river was estimated as having been between 75,000 and 125,000 cubic feet per second, which is considerably greater than the previous peak of 45,000 c.f.s. in 1916. The high water mark on the bridge was 23 feet below the top of the concrete piers.

Heavy run-off was recorded in all the canyons crossed by the upper feeder, and

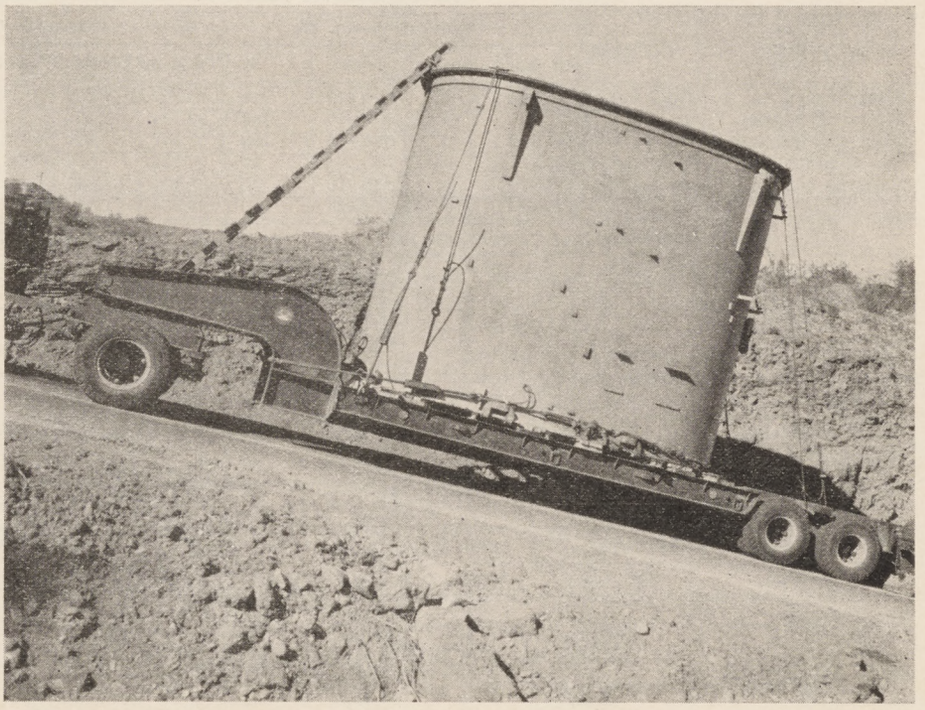
(*Continued on Page* 8.)

Plug Holed Thru Between Potrero Headings 1 and 2

Plugging along in their own private rain storm, hard-rock crews in the Potrero heading of the San Jacinto tunnel made another first down against the "old man of the mountain" on March 5 when they holed through the pilot drift between the No. 1 and No. 2 headings in that side of the 13-mile tunnel.

Located approximately 7500 feet east of the Potrero shaft, this plug in the main tunnel has been worked both ways, that is—east from heading No. 1 and west from heading No. 2. In the meantime, the faulted zone in which the plug lies was penetrated by a pioneer tunnel, and work in headings No. 2 and No. 3 was advanced from a crosscut out of the pioneer. At the present time heading No. 3 is 1365 feet ahead of the full face section in heading No. 2. At the end of the week of March 5, there was 146 feet of tunnel to be widened through the plug which had been penetrated by a top center pilot drift 8 ft. x 13 ft. in size.

On the same date the total distance remaining to be penetrated in the San Jacinto tunnel amounted to 13,819 feet, of which 5474 feet was between Cabazon and Lawrence, and 8345 feet was between Lawrence and Potrero.



Hauling one of the big transformers for the Gene pumping plant up a steep grade in the vicinity of Division 1 headquarters.

TUNNELS

February 1 to 28, 1938

TUNNEL EXCAVATION (MILES)

	Completed	Remaining
Aqueduct	89.44	2.67
Distribution	16.20	0
Total	105.64	2.67

TUNNEL LINING (MILES)

	Completed	Remaining
Aqueduct	85.32	6.79
Distribution	15.69	0.46
Total	101.01	7.25

AQUEDUCT

CONTRACTOR	TUNNEL	LENGTH IN FEET	EXCAVATION IN FEET: NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE	REMAINING	LINING IN FEET: ARCH OR INVERT	NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE	REMAINING
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	SAN JACINTO	(68,843)	(336)	(3.3)	(1,120)	54,756	14,087				*(1,564)	32,986	(35,857)
	Cabazon Shaft to East Portal	8,880		Completed		8,880	0	Arch	0	0	0	8,484	396
								Invert	0	0	0	8,484	396
	Cabazon to Lawrence	26,809	84	7.9	667	20,859	5,574	Arch	0	0	0	6,973	19,836
	Lawrence to Cabazon		84	2.8	233	376		Invert	26	158.3	4,117	6,972	19,837
	Lawrence to Potrero	17,672	84	1.3	108	300	8,513						
	Potrero to Lawrence		84	1.3	112	8,859		Arch	21	44.1	926	2,386	15,286
								Invert	0	0	0	2,811	14,861
	Potrero Shaft to West Portal	15,482		Completed		15,482	0	Arch	0	0	0	14,953	529
								Invert	0	0	0	15,482	0
	Lawrence Adit	5.664		Completed		5,664	0						
	Cabazon Pioneer			Suspended		7,274							
	Potrero Pioneer			Suspended		5,571							
	TOTALS Ft.	68,843	336	3.3	1120	54,756	14,087	Arch	21	44.1	926	32,796	36,047
	Miles	(13.04)			(0.21)	(10.37)	(2.67)	Invert	26	158.3	4,117	33,749	35,094

DISTRIBUTION

WEST CONSTRUCTION CO.	MONROVIA NO. 1 (FromW.P.)	7,868		Completed		7,868	0				Completed	7,796	0
	MONROVIA NO. 2 (FromJct.1)	940		Completed		940	0				Completed	856	0
	MONROVIA NO. 3	(32,105)		Completed		(32,105)	(0)				*(3,376)	(29,627)	(2,468)
	East from Adit	11,340				11,340	0	Full Sec.			0	12,279	
	West from Adit					5,913		Invert			0	19,352	464
	From West Portal	20,765				14,851	0	Arch	72	58.5	4,219	16,847	2,969
DIXON, BENT BROS. & JOHNSON	MONROVIA NO. 4 (FromW.P.)	8,133		Completed		8,133	0		57	13.9	791	8,133	0
	SAN RAFAEL No.1 (FromW.P.)	4,047		Completed		4,047	0			Completed		4,028	0
	SAN RAFAEL No. 2 (FromE.P.)	5,669		Completed		5,669	0			Completed		5,661	0
	TOTALS Ft.	58,762				58,762	0	Full	129	32.3	4,167	56,101	2,468
	Miles	(11.13)				(11.13)	0	Section			(0.79)	(10.62)	(0.46)

*Invert considered to equal 0.2 and arch 0.8 of completed section.

Miscellaneous Construction

February 13 to 26, 1938

AQUEDUCT PUMPING PLANTS AND APPURTENANT WORKS

CONTRACTOR	FEATURES	EXCAVATION—Cu. Yds.: Est. Quan.	Period	To Date	%	CONCRETE—Cu. Yds.: Est. Quan.	Period	To Date	%	STEEL—Tons: Est. Quan.	Period	To Date	%
WINSTON BROS. CO. & WILLIAM C. CROWELL	Intake Plant	115,600	0	115,600	100	23,752	200	23,592	99	1,829	4.4	1,813.9	99
	Gene Plant	177,107	0	177,107	100	23,791	0	23,791	100	2,866	0	2,866.0	100
WOOD AND BEVANDA	Iron Mt. Plant	354,909	0	354,909	100	22,942	0	22,942	100	1,796	0	1,795.7	100
L. E. DIXON CO.	Eagle Plant	270,177	0	265,344	98	28,212	386	28,188	100	2,313	24.9	2,277.4	99
L. E. Dixon & Case Const. Co.	Hayfield Plant	351,884	0	350,721	99	37,908	1,293	32,454	85	3,665	408.1	2,684.0	73
	TOTALS	1,269,677	0	1,263,681		136,605	1,879	130,967		12,469	437.4	11,437	

PARKER RESERVOIR—SIX COMPANIES, INC.

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnels—Excav.	3,463 Ft.	0	3,463	100
Diversion Tunnels—Concrete	3,363 Ft.	0	3,363	100
Cofferdams—Excav.	227,582 C.Y.	0	227,582	100
Cofferdams—Fill	464,890 C.Y.	0	464,890	100
Outlet Works—Excav.	220,000 C.Y.	0	207,176	94
Outlet Works—Concrete	5,000 C.Y.	60	3,904	78
Dam—Excavation	1,508,200 C.Y.	0	1,508,105	100
Dam—Concrete	297,900 C.Y.	5,643	280,047	94
Power House—Excav.	58,000 C.Y.	0	56,700	98
Power House—Concrete	14,000 C.Y.	1,344	13,407	96

CAJALCO RESERVOIR—GRIFFITH COMPANY

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnel	2,000 Ft.	0	2,000	100
Outlet App. Channel—Exc.	201,160 C.Y.	0	201,160	100
Outlet Tower—Concrete	3,250 C.Y.	0	3,250	100
Dam & Spillway—Exc.	701,725 C.Y.	0	701,725	100
Dam—Fill	3,135,560 C.Y.	0	3,135,560	100
Dam & Spillway—Concrete	27,025 C.Y.	0	27,025	100
Dike—Excavation	13,950 C.Y.	0	13,950	100
Dike—Fill	3,878,680 C.Y.	0	3,878,680	100
Dike—Concrete	44,165 C.Y.	0	44,165	100

GENE WASH RESERVOIR—J. F. SHEA CO., INC.

FEATURES	Est. Quan.	Period	To Date	Percent
Dam—Excavation	7,500	0	7,500	100
Dam—Concrete	14,339 C.Y.	107	14,198	99
Spillway—Excavation	4,762 C.Y.	0	4,762	100
Spillway—Concrete	4,729 C.Y.	0	4,729	100
Dike—Excavation	4,600 C.Y.	0	1,840	40
Dike—Fill	10,500 C.Y.	4000	4,000	38
Dike—Concrete	1,200 C.Y.	0	200	17

COPPER BASIN RESERVOIR—J. F. SHEA CO., INC.

FEATURES	Est. Quan.	Period	To Date	Percent
Dam—Excavation	8,700 C.Y.	0	8,700	100
Dam—Concrete	16,275 C.Y.	3,157	4,865	30
Spillway—Excavation	8,000 CY..	1,300	7,300	91
Spillway—Concrete	1,000 C.Y.			
Outlet Works—Excavation	Lump Sum	10%	31%	31
Gate House Superstructure				
Clearing Reservoir Site	427 Ac.	0	333	78

TION PROGRESS

CANAL, CONDUIT, SIPHON & PIPE LINES

February 13 to 26, 1938

CANAL, CONDUIT AND SIPHON (MILES)

	Completed	Remaining
Excavation	145.55	0.06
Concrete	144.19	0.37
Back Fill	79.14	1.70

DISTRIBUTION PIPE LINE (MILES)

	Completed	Remaining
Excavation	46.41	17.28
Concrete	46.31	17.38
Back Fill	46.05	17.64

AQUEDUCT

SCHED. NO.	CONTRACTOR	FEATURES	Length In Feet	EXCAVATION—Feet			CONCRETE—Feet			BACKFILL—Feet		
				Period	To Date	Remain'g	Period	To Date	Remain'g	Period	To Date	Remain'g
14	THOMPSON-STARRETT CO.	Conduit and Siphons	32,366	0	32,366	0	0	32,366	0	0	32,366	0
15		Conduit and Siphons	35,849	0	35,849	0	0	35,849	0	0	35,849	0
16		Conduit and Siphons	19,346	599	19,346	0	1,308	18,587	759	2,388	16,030	3,316
18	J. F. SHEA CO., INC.	Conduit and Siphons	27,537	0	27,537	0	0	27,537	0	0	27,327	210
19	J. F. SHEA CO., INC.	Conduit and Siphons	37,105	0	36,814	291	1,860	36,667	438	5,310	32,419	4,686
20		Siphons	18,618	0	18,618	0	0	18,618	0	0	18,618	0
20 A & B	M. W. D.—FORCE ACCT.	Siphons	752	0	705	47	0	0	752	0	0	752
3	WINSTON BROS. CO. & WILLIAM C. CROWELL	Siphon (Gene Inlet)	1,877	0	1,877	0	0	1,877	0	270	1,748	50
4		Siphon (Copper Basin)	450	0	450	0	0	450	0	0	0	0
	TOTALS		173,900	599	173,562	338	3,168	171,951	1,949	7,968	164,357	9,014

DISTRIBUTION PIPE LINES

6-P	J. F. SHEA CO., Inc.	Precast Concrete Pipe	27,294	0	27,294	0	0	27,294	0	0	27,294	0
7-P			30,044	0	30,044	0	0	30,044	0	0	30,044	0
9-P	UNITED CONC. PIPE CORP.	Precast Concrete Pipe	8,697	0	8,388	309	0	8,388	309	0	8,388	309
10-P			10,517	0	10,517	0	0	10,517	0	0	10,517	0
11-P			4,105	0	4,105	0	0	4,105	0	0	4,105	0
8C-9C-12C	BASICH BROTHERS	Cast-in-Place Conc. Pipe	1,656	0	864	792	0	673	983	0	480	1,176
21SC	J. F. SHEA CO., Inc.	Welded Steel Pipe	28,930	0	0	28,930	0	0	28,930	0	0	28,930
22SC			28,310	0	0	28,310	0	0	28,310	0	0	28,310
23SC			34,470	1,000	1,585	32,885	1,162	1,252	33,218	35	35	34,435
	TOTALS		174,023	1,000	82,797	91,226	1,162	82,273	91,750	35	80,863	93,160

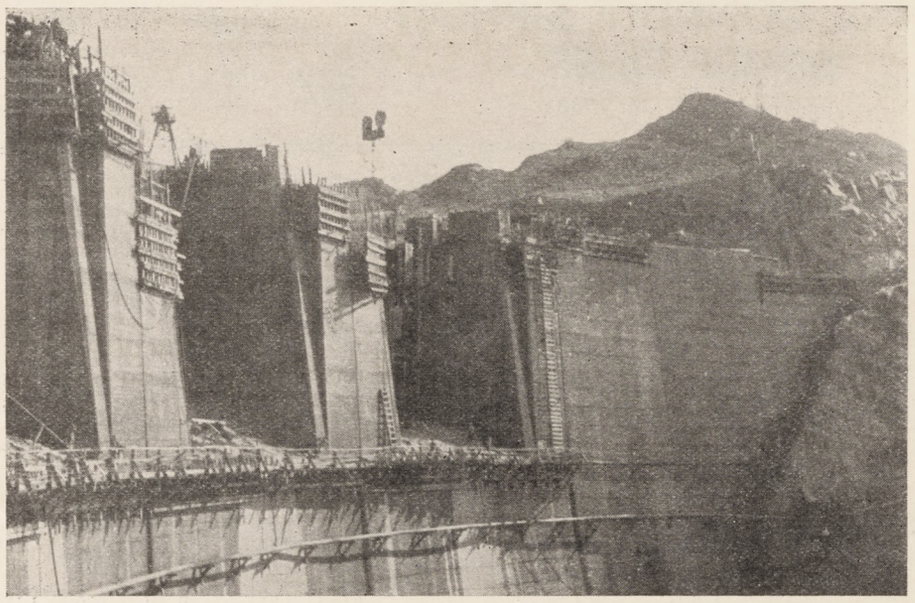
COMPLETED FEATURES

TUNNELS

	CONTRACTOR	TUNNEL	Length in Miles	Work Started	Work Completed
AQUEDUCT	MORRISON-KNUDSEN CO.	Mecca Pass, No. 1, 2 & 3	1.13	7-17-33	2-10-35
	WEST CONSTRUCTION CO.	Whitewater Nos. 1 & 2	1.94	7-18-33	4-15-35
	SHOFNER & GORDON	Hayfield No. 2	1.03	7-8-33	7-27-35
	HAMILTON & GLEASON	Bernasconi	1.18	4-19-33	11-21-35
	J. F. SHEA CO., INC.	Cottonwood	3.81	6-14-33	12-29-35
	HUNKIN-CONKEY CON. CO.	Hayfield No. 1	1.84	10-21-33	1-9-36
	DIXON & BENT BROS.	W. Eagle—West Portion	2.02	9-8-33	3-12-36
	DRAVO CONTRACTING CO.	Valverde	7.20	6-7-33	10-18-36
	WALSH CONSTRUCTION CO.	Colorado River	1.04	3-2-34	1-29-36
	WALSH CONSTRUCTION CO.	Copper Basin Nos. 1 & 2	2.32	10-4-33	2-20-36
	WALSH CONSTRUCTION CO.	Whipple Mountain	6.11	8-25-33	1-26-37
	UTAH CONSTRUCTION CO.	IronMt.—West Portion	3.07	5-15-33	10-23-36
	WINSTON BROS. CO.	Iron Mt.—East Portion	4.48	8-9-33	10-30-36
	METRO. WATER DIST.	1000 Palms No. 1	3.04	1-25-33	1-7-37
	" " "	1000 Palms No. 2	0.73	2-24-33	12-19-35
	" " "	Wide Canyon No. 1	2.71	3-31-33	2-11-37
	" " "	Wide Canyon No. 2	0.16	3-24-33	2-12-37
	" " "	Seven Palms	3.17	4-27-33	2-2-37
	" " "	Long Canyon	2.90	3-6-34	12-31-36
	" " "	Blind Canyon	1.29	3-22-34	12-3-36
	" " "	Morongo No. 1	1.08	4-21-34	1-20-37
	" " "	Morongo No. 2	0.36	12-29-34	1-5-37
	BRODERICK & GORDON	West Eagle Mt.—E. Portion	3.00	2-8-34	5-6-37
	WINSTON BROS.	Coxcomb	3.37	9-15-33	4-26-37
	METRO. WATER DIST.	East Coachella	18.30	1-25-33	5-8-37
	BRODERICK & GORDON	East Eagle Mt.	1.79	6-8-34	7-23-37
		TOTALS	79.07		
DISTRIBUTION	J. F. SHEA CO., INC.	Sierra Madre	1.27	9-1-35	10-31-36
	DIXON, BENT BROS. & JOHNSON	Pasadena Extension	1.05	10-5-35	11-24-36
	DIXON, BENT BROS. & JOHNSON	Pasadena	2.30	2-11-35	4-29-37
	GRIFFITH COMPANY	Cajalco Outlet	0.45	11-12-35	2-11-38
		TOTALS	5.07		

CANAL, CONDUIT, SIPHON, AND PIPE LINES

	CONTRACTOR	FEATURE AND NAME OR SCHEDULE	Length in Miles	Work Started	Work Completed
AQUEDUCT	UNITED CONCRETE PIPE CORP.	Little Morongo Siphon	0.13	2-27-34	8-20-34
	METRO. WATER DIS.	Fan Hill Conduit and Siphon	0.32	10-21-33	11-19-34
	MORRISON-KNUDSEN CO.	Sch. No. 18-J, Big Morongo and San Andreas Siphon	1.86	2-12-35	9-16-36
	GRIFFITH COMPANY	Sch. No. 20-C, 21, 22, 23 & 23-A	12.79	1-5-35	10-13-36
	JAHN & BRESSI CONST. CO.	Sch. No. 5, Canal and Siphons	10.15	12-18-34	11-17-36
	JAHN & BRESSI CONST. CO.	Sch. No. 4, Canal and Siphons	10.08	6-6-35	3-18-37
	UTAH CONSTRUCTION CO.	Sch. No. 9, Canal, Conduit & Sip.	8.97	12-12-34	5-15-37
	BARRETT-HILP & MACCO CORP.	Sch. No. 2, 3, 7, Canal, Con. & Sip.	18.71	12-3-34	5-25-37
	METRO. WATER DIST.	Sch. No. 17, Conduit and Siphons	4.16	9-9-35	6-15-37
	AQUEDUCT CONST. CO	Sch. No. 1,10,11,13 Canal, Con. & S.	26.99	1-24-35	6-24-37
	WOOD & BEVANDA	Sch. No. 6, 8, Canal & Siphons	12.28	11-27-34	7-28-37
	THREE COMPANIES, INC.	Sch. No. 12, Conduit & Siphons	6.24	1-8-35	11-6-37
		TOTALS	112.68		
DISTRIBUTION	UNITED CONCRETE PIPE CORP.	Sch. No. 8P, Precast Concrete Pipe	4.65	2-21-36	3-20-37
	WESTERN PIPE & STEEL CO.	Sch. No. 2S, 2B, Welded Steel Pipe	10.33	4-8-36	11-24-37
	AMER. CONC. & STEEL PIPE CO.	Sch. No. 1, 3, 4, 5, Precast Conc. Pipe	15.75	2-20-36	12-23-37
		TOTALS	30.73		



A downstream view of the spillway gate structures along the top of Parker Dam. It is planned to start backing up water behind the dam in the near future.

C Q – BANNING TO McGINNIS – TO VENDLEY – TO LOS ANGELES

Despite failure of commercial telephone and telegraph lines of communication between Los Angeles and Banning during the storm period from March 2 to 6, employees of the Electrical-Mechanical Division established communications along the aqueduct construction front by means of a 500-mile combination short-wave radio and telephone hook-up.

It was a question as to who was the real orphan of the storm, Los Angeles or Banning, until Clarence Vendley in Los Angeles and Gus McGinnis at Division 1 headquarters made radio contact with each other on Thursday, March 3. Vendley, from his home in West Los Angeles, started working the airways via his short-wave set on Thursday morning. About noon on that day he heard station W6NIZ—McGinnis at Division 1—state that it had an urgent message for Los Angeles. By going through a series of aerial acrobatics, the mysteries of which can only be explained by a true radio bug, Vendley finally made a contact with McGinnis at 1:30 P. M. on Thursday. For a period of about twenty-four hours, this was one of the few contacts that was in operation between the Los Angeles area and the outside world. Considering the fact that practically every amateur radio operator in the flood zone was working the airways carrying local emergency reports, the contact between Vendley and McGinnis was truly remarkable.

The District's telephone lines remained in operation from Banning east, and by relaying messages from Banning to Division 1 by phone—then by radio to West Los Angeles—then by phone to the L. A. office—the field and office headquarters were able to carry on necessary business.

The first message from the field was to the effect that there had been no serious power outage at the San Jacinto tunnel, and that everything at that end of the aqueduct was O.K., which relieved the load of "mass worry" which the L. A. engineering staff had been carrying on its shoulders. The field in turn heaved a sigh of relief when it found that there were still 13 District cities left in Southern California. From some of the wild radio broadcasts which the field employees had picked up—the main aqueduckers had thought that most of the area had been washed to somewhere in the vicinity of the Island of Hawaii.

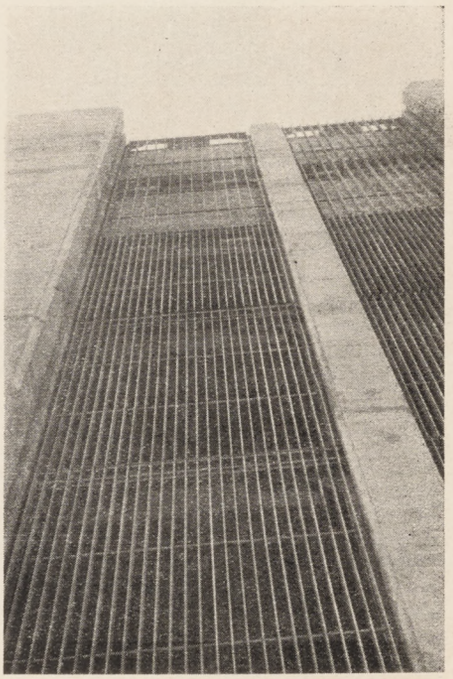
W. S. Gould, also of the L. A. Electrical Division, took over the job from Vendley on Friday noon and carried on with McGinnis for the balance of the period. All messages were sent by the dot and dash of Continental-Morse code, the boys averaging about 15 words per minute for the 94 messages which they transmitted.

Entire Columbia System Carries Aqueduct Program

Carried by the full coast-to-coast network of the Columbia Broadcasting System, "Water versus Water," a radio description of construction activities along the line of the Metropolitan Aqueduct was broadcast from 3:30 P. M. to 4:00 P. M. (Pacific Coast Time) on Saturday afternoon, February 26.

Described by radio technicians as the most elaborate broadcast of its type that has ever been put on the air, the program required more than two weeks of advance preparation and used the services of 23 members of the announcing and technical group of the local staff of the Columbia System.

Produced by Fox Cafe and Charles Vanda of the Columbia Pacific Network, the broadcast was announced by Tom Hanlon on the Distribution Division, Gary Breckner at Parker Dam, Don Forbes, Carlyle Stephens, and Richard Joy at Potrero, with Arthur Gilmore opening and closing the program in the Hollywood studio of KNX. Technical arrangements were under the direction of Harry Speers and Les Bowman, Columbia engineers, and Bud Weaver, Supt. of Operations for the District.



Looking up the side of one of the trash racks at the Intake pumping plant. This "arty" view was snapped by Chas. Brandt of the L. A. Mails and Files Section.

NEWS FROM FIELD AND OFFICE

One of the highlights of reporting the heavy dew that covered Southern California recently appeared in Ed Ainsworth's column, "Along El Camino Real" in the March 3 issue of the Los Angeles Times. Said Mr. Ainsworth, "Donald Duck has just brought in the following dispatch which I was unable to cover yesterday in person because of the dew: 'VAN NUYS, March 3.—William P. Whitsett, Chairman of the Metropolitan Water District, indignantly denied here today, when reached by a reporter in a rowboat, that work is to be halted on the Colorado River Aqueduct. Mr. Whitsett, climbing to the tower of the Branch City Hall here after dodging a floating henhouse on the main street cried dramatically, 'Water is what Southern California must have'."

In an exclusive radio message to the AQUEDUCT NEWS, Mr. Whitsett later denied that a floating henhouse caused him to climb to the top of the City Hall Tower—it was a floating barn.

* * *

T. E. Blake was erroneously reported in the last NEWS as being an inspector on fence construction. Blake is located at Division 1, and is in charge of temperature investigations in connection with the cooling of the Gene and Copper Basin dams.

* * *

Various phases of the construction of the aqueduct will be discussed in detail as a part of the Western Metal Congress to be held in Los Angeles March 21 to 25. H. P. Vail, engineer in the Distribution Division will speak before the American Welding Society's part of the conference in connection with Mitigation of Corrosion on steel pipe lines. Shop fabrication of the large diameter steel pipes used on the distribution system will also be discussed by a representative of the Consolidated Steel Corp. Prof. R. L. Daugherty of Cal Tech will discuss the centrifugal pumps used on the aqueduct, as a part of the program of the American Society of Mechanical Engineers.

* * *

Jack Parker, who has been a longtime aqueducker, and recently an inspector on the Distribution Division, resigned from the District on March 1 to accept a position with the Braun Corporation in Alhambra. His cousin, Hugh Parker, who is also well known all over the aqueduct, and who last worked for the West Construction Company on the Monrovia tunnels, is also now employed by the Braun Corporation.

Aqueduct Temperatures

February 16 to February 28, 1938

	Max.	Min.
Div. 1	77°	40°
Div. 2	75°	34°
Div. 3	76°	37°
Div. 5	72°	29°

In reporting the completion of conduit excavation (story page 8, this issue) it was brought to the attention of the NEWS that D. C. Walker, resident engineer for the District on the Thompson-Starrett job, rounded out his 12th year of work on the aqueduct last February. Mr. Walker started to work for the Department of Water and Power of the City of Los Angeles on the Colorado River Aqueduct surveys in 1926, and has been on the job ever since.

* * *

Stephen Mihelich, formerly in the Banning Testing laboratory, is now in the office at the Lawrence adit of the San Jacinto tunnel.

* * *

Chainman Percy Tope has been transferred from the Division 4 engineering staff to the engineering staff at Division 1.

Because it was impossible for those employed on the main aqueduct to contact their families living in any of the District cities during the recent storm, the District had a series of messages sent out by radio station KFWB requesting information about any families of aqueduct workers that might have been endangered by the floods. At the time that this issue of the NEWS went to press, there had been no reports received of any loss to people connected with the aqueduct.

* * *

Former habitants of Berdoo Camp will be interested to know that their former dwelling places are moving right into the social swim. A Palm Springs newspaper clipping reports that a number of the buildings from Berdoo have been moved to Palm Springs where they are to be transformed into a hotel. It looks like Fred Carleton, the former major domo and maitre de hotel of the Berdoo Spa, made a mistake when he didn't charge at least $10 per day for his bachelor's suites.

* * *

R. B. Guilbault, formerly in the Electrical-Mechanical Division, has resigned from the District to take a position in the Electrical Division of the Imperial Irrigation District.

Proving that aqueduckers do obey the law. The fancy left turn signal is being given by Inspector Jack Zapp of the Monrovia No. 3 tunnel inspection staff. Jack is driving (?) up Monrovia Canyon after the recent flood. The car belongs to Art Rankin, Asst. Supt. for the West Construction Co. The scene is the remains of the West Camp at the west portal of Monrovia tunnel No. 3.

Sale of $60,000,000 of Bonds to R. F. C. Completes Financing

At its meeting on March 4, the Board of Directors of the District accepted the bid of the Reconstruction Finance Corporation for the purchase of $60,000,000 of Colorado River Aqueduct bonds. This amount, plus bonds already sold to the Reconstruction Finance Corporation and to the Public Works Administration, will complete the financing of the construction of the aqueduct system. The total amount to be purchased by the R.F.C. amounts to $207,000,000, while the P.W.A. has purchased $1,500,000 of the District's bonds.

Bonds sold to the R.F.C. bear interest at the rate of 5 per cent per annum, but at the present time and extending until April 1, 1939, the federal corporation is making a refund of 1 per cent to the District, making an effective interest rate of 4 per cent.

The bonds are a part of the $220,000,000 of Colorado River Waterworks Bonds which were authorized by the citizens of the Metropolitan Water District by a majority of 5 to 1 at the election held on September 29, 1931. Present engineering estimates indicate that the aqueduct will be completed well within its estimated cost and the bond issue will provide sufficient funds to construct additional features not included in the original estimates for the aqueduct system.

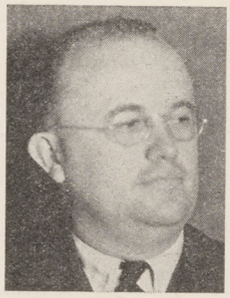
55 Miles of Conduit Excavation Finished

Involving the moving of 11,330,000 cubic yards of material, or about 17 million tons of earth and rock, excavation has now been completed for the 55 miles of cut-and-cover conduit on the main aqueduct. The only excavation work remaining on this part of the job is for a few siphons and the highway crossing south of Cabazon. Conduit work now under construction is being done by the Thompson-Starrett Co. and the J. F. Shea Co., and progress reports show that both contractors are more than 98 per cent completed.

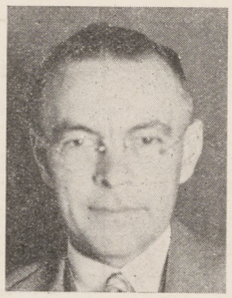
Completion of this phase of the work also marks the completion of all excavation on the main aqueduct with the exception of the 2.6 miles still to be penetrated in the San Jacinto tunnel.

Total yardage of earth and rock excavated and moved thus far on the aqueduct amounts to 43,150,000 cubic yards, or about 43 times as much material as was in the Elysian Park mountain which slipped its moorings in Los Angeles last November. Aqueduct statisticians figure that this material already handled on the aqueduct weighs more than 65 million tons.

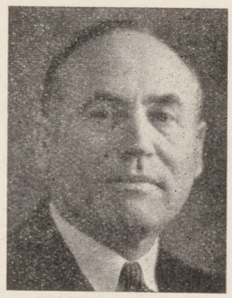
Who's Who On the Aqueduct



Warren W. Butler



Walter Humphreys



Herman Nelson

WARREN W. BUTLER
Member of the Board of Directors, Metropolitan Water District, Representative of Compton.

Born September 20, 1904, in Kansas City, Kansas . . . Went to high school in Huntington Park, California, and attended the University of Southern California . . . 1922-1923, was hoisting engineer for Southern California Edison Company, Power House No. 3 in Big Creek District . . . 1924-1929, was on the editorial staff of the Huntington Park Signal, Huntington Park, Calif. . . . 1929-1936, City Editor of the Compton News-Tribune . . . 1936 to date, Managing Editor of the Herald Publishing Corporation, Compton . . . Advertising Manager and member of Board of Smith Metropolitan Market Company, Compton . . . Has been member of Board of Directors of the Metropolitan Water District since June, 1935 . . . Is member of Public Relations Committee . . . Is married and has a son and daughter.

WALTER HUMPHREYS
Member of the Board of Directors, Metropolitan Water District, Representative of Fullerton.

Born June 6, 1892, in New York City, N. Y. . . . Attended University of Southern California and University of California at Berkeley . . . 1914, was an instructor in the Los Angeles High School . . . 1915-1917, was an engineer for the Los Angeles School System . . . 1917-1919, Lieutenant in the Corps of Engineers, U. S. A. . . . 1919-1923, in the engineering department of the Union Oil Company of California . . . 1923-1927, Engineer for Rocky Mountain Division, Union Oil Company . . . 1927-1935, Engineer and Manager, Waste Water Co. of Orange County . . . 1935 to date, Engineer and Manager, Waste Water Co. of Orange County and Santa Fe Springs . . . Has been member of Board of Directors of District since April, 1931 . . . Is member of Engineering, Subsistence and Medical, San Jacinto Tunnel, and Boulder Dam Power Committees . . . Is married and has a daughter.

HERMAN NELSON
Member of the Board of Directors, Metropolitan Water District, Representative of Glendale.

Born August 17, 1880, in Britt, Iowa . . . Attended Curtiss College, Minneapolis, Minnesota . . . Spent fifteen years in banking work in Iowa . . . Is now Vice President and Manager of Glendale and Broadway Branch, Security First National Bank of Los Angeles . . . Has been with this institution for the past twenty-six years . . . Is Vice President, Boy Scouts of America, Verdugo Hills Council, and has been Treasurer for past twenty-four years of Glendale Lodge, B. P. O. E. . . . Is director of Glendale Research Hospital, Director of Glendale Y. M. C. A., Director of Glendale Merchants Association, and member of Chamber of Commerce and Kiwanis Club of Glendale . . . Has been member of Board of Directors of District since June, 1937 . . . Is member of Insurance Committee . . . Married and has three children . . . Hobby is riding and horses.

AQUEDUCT UNDAMAGED

(*Continued from Page* 3.)

although the line itself was undamaged, several of the District's contractors reported damage to their own property and equipment. In San Gabriel Canyon, Basich Bros., who have the contract for that canyon crossing, lost their plant and equipment, which was washed down the canyon and buried in the debris.